

inspur 浪潮



**Business China Youth Chapter
Winter Learning Journey**

通商中国青年组
冬季学习之旅

**City Report for Jinan
济南城市报告**

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1. Background of Jinan¹, Shandong 济南的背景简介

1.1 Introduction of Jinan

Jinan, also known as the Spring City, with over 700 hot springs¹, is the capital of Shandong province². Throughout the history of China, Jinan has always played an important role and has evolved into a major national administrative, economic, and transportation hub. With a GDP of 720 billion RMB in 2017³, it ranks number 25⁴ amongst all the cities in China, and third within Shandong⁵ after Qingdao and Yantai.



1.2 Significance of Jinan

1.2.1 Within China

Jinan's economy focuses on logistics, ICT and heavy machinery, which the report will touch on in Section 3. In addition, the city is one of the first three China software cities⁶ selected by the central government for accelerated development, together with Nanjing and Chengdu. Jinan is not only the military base for the People's Liberation Army (PLA) forces in Northern China, it also serves as a key transport node in Northern China, connecting key cities in the region and across China.

1.2.2 To Singapore

The development of Jinan can be of interest to Singapore due to (i) its evolution into a service economy by positioning itself as a strategic finance, logistics and innovation node, as the well as (ii) its city development and management challenges which Singapore has experience in.

2. Evolution of Jinan

改革开放 40 年：济南的变迁

2.1 Key Statistics and Indicators

Jinan has a population of 7.23 million in 2016. It has a GDP of 653.6 billion RMB, with a GDP growth of 7.8%, with the per capita in the range of to 91,000 RMB. Jinan's utilized Foreign Direct Investment totaled US\$ 1.72 billion in 2016, and continues to experience significant year-on-year growth.⁷ Lastly, Jinan is classified as a Tier 2 city due to its GDP, political importance and population.⁸

2.2 Timeline of Development

Historically, heavy industries have contributed significantly to Jinan's economic growth. However, post reform and opening up, the delegation observed how Jinan is actually moving into modern service

¹ Shandong Jinan, the city of springs. (n.d.)

² Economist Intelligence Unit (n.d.)

³ 2017 年山东各市 GDP 一览：济南达 18 年来巅峰. (n.d.)

⁴ 2017 年中国城市 GDP 速递：济南 7207 亿. (n.d.)

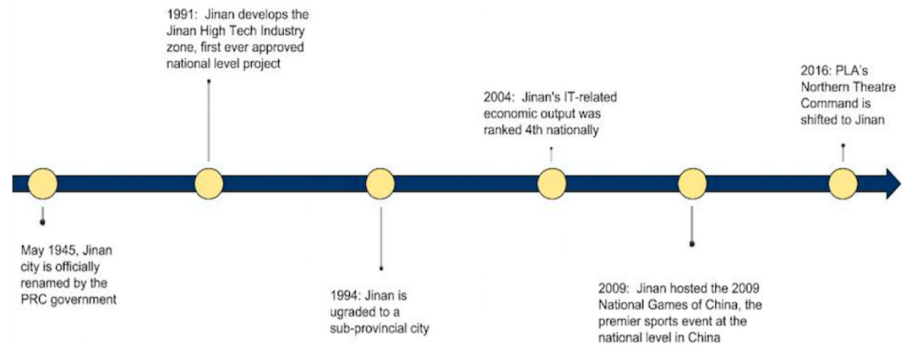
⁵ Eye on Asia. (2018).

⁶ 中国软件名城. (n.d.)

⁷ Hong Kong Trade Development Council. (2019).

⁸ South China Morning Post. (2016).

sectors. Apart from its economic significance in Shandong, Jinan is also a key city in transportation, military, education and sports.



2.3 The 13th “Five Year Plan” (2016-2020)

In 2015, the Shandong provincial and Jinan city government announced the 13th ‘Five Year Plan’⁹, setting out 27 main targets in four main areas, namely economic development, innovation drive, people’s the welfare, and resource and environment. Some notable key goals and present performance are listed in the table below.

Target	Goal (by 2020)	Present (2016)
Jinan’s GDP ¹⁰	RMB 900 billion	RMB 653.6 billion ¹¹
Urbanization Rate	65%	66-70%
Industry Contribution to GDP	Manufacturing > 30% Services > 55%	Manufacturing 36.2% Services 58.3%

The plan aims to create an economic centre that focuses on the ‘Made in Jinan’ branding through developing its cloud computing core competencies and constructing an ecosystem for cloud computing. The government is also focusing on the Internet+ strategy for extension into applications in the manufacturing, financial, logistics and agriculture sectors. In a bid to spur innovation, Jinan plans to build an Innovation Valley¹² to serve as a tech catalyst similar to the US’s Silicon Valley.

2.4 SWOT Analysis of Jinan

This report summarizes observations of Jinan’s developments into a SWOT analysis.

STRENGTHS (+)	WEAKNESSES (-)
<p>Grounded Traditional Industries Strong in areas of heavy machinery by legacy</p> <p>Developed New Industries Strong expertise and continued ICT investments</p>	<p>Brain Drain Unable to retain top talents from leaving to for Beijing, Shanghai and Shenzhen</p>

⁹ 济南市国民经济和社会发展第十三个五年规划纲要. (n.d.).

¹⁰ China CN: GDP: Shandong: Jinan. (2018).

¹¹ 十大 1.6 线城市发展前景评测：西安、合肥、济南、福州位居前四！. (n.d.).

¹² 济南创新谷. (n.d.).

Geographical Leverage Proximity to Tier 1 cities (Beijing and Shanghai) Key transport hub for the Northern region of China	Poor Planning Urbanization growth with poor city planning
OPPORTUNITIES (+)	THREATS (-)
Growth Pole for ICT Development Leverage on 大众创业 , 万众创新 national plans and planned Innovation Valley Inflow of Investments Saturation in Qingdao redirects investments inland	Competitive and Comparative Disadvantage Strong competition from 北上广 and Qingdao which can replicate what Jinan is doing in ICT and overtake it due to the better quality of life and accessibility

3. Growth Conditions and Niche Industries

发展条件及重点经济领域亮点

Being one of the 37 main logistics knots of China¹³, Jinan has significant growth prospects as it has a geographic significance within the Shandong, and geographic accessibility to key cities and countries.

3.1 Growth Conditions

Jinan’s significance within the Shandong province has led to its growth in areas of science and technology. Being an economic, education and technology centre, Jinan has evolved to offer the following growth conditions even for foreign firms¹⁴¹⁵:

- Educational, scientific and technological resources from educational institutes
- Incubation and accelerator infrastructure for startups (See 5.2 for an example)
- Tax and occupancy privileges for matured enterprises
- The large talent pool in high growth ICT areas, with favourable foreign talent policies

To facilitate growth and encourage more investments, the city started developing infrastructures to form growth ecosystems since 1991. One notable early example would be the Jinan High Tech Industrial Development Zone, which has attracted foreign companies such as LG, Panasonic, Volvo, and Sanyo¹⁶ to set up an office in Jinan. As growth trends shift, the Jinan government seeks to leverage upon opportunities that include sustainable development, city planning & design, life sciences and elderly care sectors by opening the Jinan Innovation Zone. The Jinan government also aims to support Chinese enterprises in their overseas expansion.

3.2 Niche Industries

3.2.1 Heavy Machineries

As aforementioned, Jinan’s legacy lies in the heavy machinery industries, and till today, the economic contribution of manufacturing is still significant at 36% of Jinan’s GDP¹⁷. Beyond Jinan, the equipment

¹³ Why Jinan? (n.d.).

¹⁴ Investment policies. (n.d.).

¹⁵ 20 policies of Jinan Innovation Zone for investment promotion. (n.d.).

¹⁶ Guo, R. (2013).

¹⁷ Jinan (Shandong) City Information. (2018).

and machinery manufacturing industry remain one of the pillar industries in Shandong province, with its output of agricultural vehicles gaining nearly 80% domestic share.

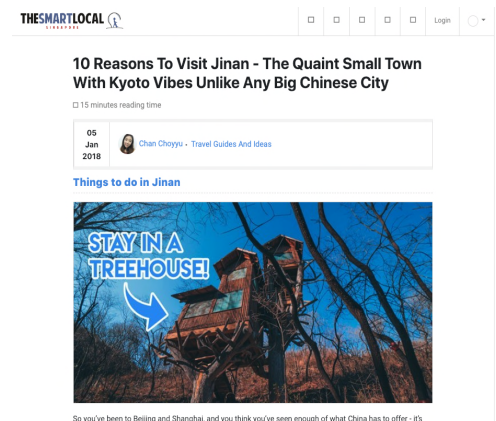
3.2.2 Infocomm Technology

Since the early 1990s, Jinan has been paving the way for ICT development through industrial zones and was earmarked as a key software city by the Central Government. Traditional outputs include household appliances, electronic components, ICT and telecommunication devices, as well as software products and services. Latest development plans revealed a shift towards modern technology such as the application of the Internet of Things, cloud computing technology and smart city.

3.3 Potential Industries¹⁸

3.3.1 Tourism

Jinan was featured in a tourism article by a local site, The Smart Local¹⁹, in early January 2018 and featured many places of attraction. Increasingly, Jinan is driving developments for tourism, which is in line with the Shandong Province Tourist Development Plan²⁰ over the last decade, with the plans stretching to 2025.



3.3.2 Logistics and Transportation

As one of the 37 key transport knots in China, Jinan has launched various preferential tax measures to boost the growth of its logistics industry. They have also sought to integrate forefront technologies for automation logistics²¹, including the automatic sorting of goods, mobile terminals and Internet of Things application in logistics management.

3.3.3 Water and Waste Management

Jinan faces a common problem of rapid urbanization and suffers from water and waste management problems (See 4.1 for elaboration). Investments have been made to seek solutions for such problems, such as 'sponge city' projects²², which serves to solve problems of flood and water shortage²³. Jinan was one of the 16 cities selected for experimentation by the Chinese government. This has facilitated relevant sectors' development in water recycling, wastewater treatment, pollution control, urban sewage and garbage disposal facilities.

4. Challenges and Strategies for Jinan's Development

济南城市发展：挑战及应对

4.1 Urbanization

Though rapid urbanization is one of Jinan's 13th "Five Year Plan" goals, it may have repercussions that come with the lack of adequate planning and resource constraints. In fact, Shandong is one of the 5

¹⁸ Economic overview and opportunities of Shandong province. (2016).

¹⁹ Chan, C. (2018).

²⁰ Technical Cooperation and Services. (2016).

²¹ UG international. (2018).

²² Lee, S. (2009).

²³ Li, X., Li, J., Fang, X., Gong, Y., & Wang, W. (2016).

fastest²⁴ urbanizing provinces with further growth opportunities in urbanization²⁵, which is likely to be sustained in the coming years.

4.1.1 Water Ecological Development²⁶

Urbanization has led to water shortages and water environment changes. Growth in water consumption, both domestic and industrial, has depleted groundwater and rivers due to fulfilling urban demand. In dealing with such challenges, the city has taken steps as a “sponge city”²⁷ to work towards sustainable urbanization through better planning of local water demands, providing inter-city water networks and restoring water ecology.

4.1.2 Transit Oriented Development

Competing land use demand has led to land use and planning challenges, especially since the rapidly urbanizing city of Jinan seeks to continually develop its transport network and infrastructure. To mitigate its limited land, Jinan incorporates transit-oriented development (TOD) in partnership with many renowned universities to promote contemporary concepts of walkable neighbourhoods, bus rapid transit corridors, and pedestrian-friendly shared spaces.²⁸ In fact, TOD applications in Jinan East’s²⁹ development has been hailed as an industry case study.

4.2 Competitive Disadvantage

Despite being the capital of Shandong province, Jinan remains a second-tier city behind economic powerhouses of Qingdao and Yantai. Despite the comparative advantage in legacy areas of growth, in today’s time, the two key factors of production of capital and labour face limitations in Jinan. For capital, strong FDI injections are towards the province’s economic powerhouses, and for labour, possibly brain drains from the exodus of talents towards Shanghai and Beijing, or shift from labour-intensive industries to entrepreneurship and higher education³⁰.

4.2.1 Leveraging Spillover Effects

As an inland manufacturing powerhouse, Jinan could leverage on Qingdao and Yantai’s growth by providing secondary industries support to tertiary, quaternary and quinary industries in the Tier 1 cities. Alternatively, as the Tier 1 cities approach saturation in industries, Jinan can come into pitch and divert investments inland.

4.2.2 City Branding and Tourism

As mentioned in 3.3.1, tourism is an increasing focus of the Jinan government, with a development plan put in place. Though tourism in Jinan could be promoted, it is questionable if Jinan’s branding could rival that of, for instance, Qingdao. The delegation could observe how Jinan is regarded as significant only at a provincial level while Qingdao is significant on a national level when people commonly use “山东济南” and “中国青岛” when referring to them.

²⁴ Xiao, Y., Song, Y., Wu, X.D. (n.d.).

²⁵ Sun, D. Q., Zhou, L., Li, Y., Liu, H. M., Shen, X. Y., Wang, Z. D., Wang, X. X. (2017).

²⁶ Wu, P. L., & Tan, M. H. (2012).

²⁷ Peng, P. (n.d.).

²⁸ Thomas, A., & Deakin, E. (2008).

²⁹ Lv, J., Guo, J., Li, Jin. (2017).

³⁰ Zhao, X. (2017).

5. Winter Journey Corporate Visits 企业参访学习点

Jinan is home to some of China's most important and successful companies, particularly in the ICT sector after years of state-led investments. The focus was strongly on ICT during our visits, and the delegation engaged firms in different areas of technology, specifically deep technology and e-commerce.

5.1 Inspur 浪潮

5.1.1 Company Brief

Inspur is China's leading company for cloud computing and big data analytics. It provides these services and IT products such as servers to more than 100 countries globally. With Inspur creating the first mainframe for key applications - TSK1, China has become the third country in the world (aside US and Japan) to possess high-end servers. Inspur aims to be the go-to data services company for the government³¹.



5.1.2 Key Success Factors

5.1.2.1 Foresight in Decision Making

Inspur's founders saw ahead of the times when Shandong was heavily reliant on manufacturing. They started focusing on developing personal computers (PCs) in 1983, marking a new IT development milestone when most of China was still heavily involved in manufacturing and heavy industries. While other companies were still focused on developing household electrical appliances to meet the market's needs, the CEO led Inspur forward in developing micro-servers.

5.1.2.2 Sensitivities in Foreign Expansion

In light of the recent tensions between China and other countries such as the USA regarding information and tech theft, Inspur shared they deliberately avoid entering sensitive industries such as banking in countries where they have an overseas presence in. Such a strategy protects them from accusations of hacking or espionage.

5.1.3 Relevance to Singapore

The first foundations of a Singapore-Jinan relationship were established since 1993 when their first micro-server was developed in Singapore by their engineers³² during that year. The current CEO of Inspur, Mr Sun Pishu, was leading the project development back then. With Inspur's recent inroads into the realm of smart cities and data management, there could be potential collaboration for tech sharing for implementation in Singapore towards our Smart Nation initiative. A possible plan would be to look at

³¹ Inspur. (2019).

³² Inspur. (2019).

a potential Inspur R&D lab set up in Singapore, following the example of Alibaba who set up a Singapore R&D facility in 2018³³.

5.2 Handu Yishe 韩都衣舍

5.2.1 Company Brief

Handu originally started out as an online store on various e-commerce websites, selling Korean fashion (K-fashion) clothes. 13 years on, it has become one of the most successful online stores on Taobao, bagging several awards in the process. In 2014, Handu were the best-performing stores of Double 11 (Nov 11), also known as Singles' Day, and Double 12 (Dec 12).



5.2.2 Key Success Factors

5.2.2.1 Innovative Operation Model

Their success lies in their IOSSP model³⁴, which is a product based group system. Each group consists of a designer, the webpage specialist and inventory manager to be responsible for the entire process of one product; from selection to design and until it reaches the online market.

5.2.2.2 Positive Work Environment

In Handu, each person has a nickname for themselves printed on their working desk. These nicknames typically come from the Compendium of Materia Medica (本草纲目), to show the employees they are all part of the same ecosystem despite being in different teams. The working space is also plastered with motivational posters, and there are routine broadcasted exercise breaks, all towards building a positive and healthy work environment.

5.2.3 Relevance to Singapore

As Singapore increasingly shops online, both online shops and platforms have been set up, with some finding success on the island's shores. Many would know Carousell as an e-marketplace that aims to make "selling as easy as taking a photo, buying as simple as chatting"³⁵, and Shopee as a one-stop e-commerce platform³⁶. With more of such e-commerce startups, Handu could collaborate with e-commerce startups in Singapore to exchange and learn from each other's business models as knowledge sharing. This would enable Handu to have a glimpse of Singapore's markets, while the e-commerce startups here can tap on Handu's reach in China.

³³ Lim, E. (2018, February 28).

³⁴ Handu Yishe. (2019).

³⁵ Carousell. (n.d.).

³⁶ Sea Group. (n.d.).

6. Synergy between Jinan and Singapore 济南与新加坡的合作潜能

6.1 Water Ecology Management

Jinan's rapid urbanization has led to repercussions in water ecologically difficulties, and in mitigation of such issues (as shared in 4.1.1), the Chinese government experimented Jinan with the 'sponge city' project to reduce floods and water shortage. Such urban water problems are similar to what Singapore had experienced in the past, but had successfully innovated to overcome these challenges, even receiving the prestigious Stockholm Water Industry Award in 2007³⁷ as an internationally recognised as a leader in innovative water management.

6.1.1 Singapore's Expertise

Singapore's lack of natural water endowment, together with major river pollution and rapid urbanization since the 1960s, Singapore had strived with success to develop a diversified and sustainable water supply. Our utility board, the PUB, actively approached and collaborated with local and international partners to innovate in solutions suited for our urban environment. Singapore has also been involved with information and expertise sharing through forums such as the International Water Week³⁸, and in foreign developmental projects such as in Australia.

6.1.2 Synergies with Jinan

In the case of Jinan, government agencies have been working towards sustainable urbanization through better planning of local water demands, providing inter-city water networks and restoring water ecology. In collaboration, Singapore can work with Jinan by offering expertise in water management, planning, recycling and waste management, since Jinan faces the problem of Singapore's past.

6.2 City Planning and Smart City Development³⁹

Jinan faced significant challenges in when dealing with land use planning, especially with the rapid urbanization taking place. Jinan's older versions of city planning blueprint were reportedly not able to keep up with the pace of development. In lieu of China's recent policies in the application of technology in city development, Jinan has been looking into such applications.

6.2.1 Singapore's Expertise

As a country with limited space and huge investments towards the application of technology, urban planning has seen world acclaimed success in Singapore. The Urban Redevelopment Authority (URA) has repeatedly made long term master plans⁴⁰ with strict land use planning that they were able to keep to while implementing new technological initiatives through the Smart Nation Initiative⁴¹ and living up its name as a garden city.

³⁷ Tackling Singapore's Water Shortage - INSEAD. (n.d.).

³⁸ Tan, A. (2017).

³⁹ Singapore's urban planning in five points. (2016).

⁴⁰ URA Master Plan. (2019).

⁴¹ Smart Nation Initiatives. (2019).

6.2.2 Synergies with Jinan

With reference to 4.1.2, Jinan has also started to promote contemporary concepts like pedestrian-friendly shared spaces. However, improvements such as a long term land use planning to ensure adequate balance for growth is necessary. Collaboration could involve the consultation of joint projects such as the Suzhou Industrial Park and Tianjin Eco Park for reference. With more advanced technologies and more upfront infrastructure, Jinan will welcome a better city image.

6.3 Co-operation and Exchange Opportunities

To provide support for the above-proposed collaborations, exchange opportunities at students' level and co-operation across industry leaders would allow a better mutual understanding and identification of additional synergy between both Singapore and Jinan's representatives. Beyond business considerations, culture, education and social are also areas for sharing. Organizations such as Business China, or Institutions of Higher Learning (IHLs) can facilitate the regular sending of students and professionals to visit and exchange in Jinan. Even at an individual level, provisions and grants can be made for young working adults and professionals who are keen to co-organize forums and seminars to exchange ideas and insights.

7. Key Cultural Learnings in Jinan

济南文化交流学习亮点

Geographical location has a strong influence on culture and its development. Given China's sheer size and the unique location of each province, provinces are often differentiated not only by its skylines but by its people, traditions and culture.

7.1 Visit to Baotu Spring

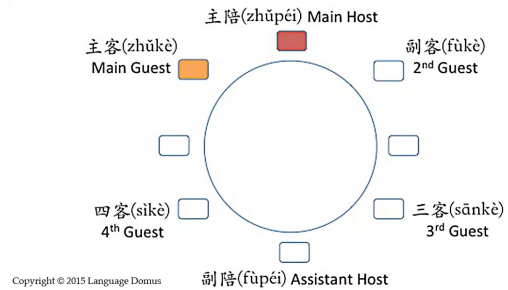
Baotu Spring has been a recurring subject of classic Chinese literature and has been written about by renowned authors such as Pu Songling. At the Spring, our delegation learnt how the peculiar "Baotu" was created by the interactions of nature and it's Qing dynasty historical significance which gave the Jinan the title of "Number One Spring under the Heaven". The delegation also came to understand that in the 13th "Five Year Plan", Jinan has considerations to integrate the springs with city's development, pursuing a combination of both preservation and modernisation.

7.2 Dining Etiquette and Drinking Culture

While our delegation was forewarned about the drinking culture in Shandong, many of our first timers who experienced the culture themselves expressed that it is eye-opening for them, experiencing it first-hand in Shandong.

In the interaction session with the Shandong Youth Federation, the delegation saw how the drinking culture is omnipresent in their daily life, dinners, business meetings and celebrations. Being a pervasive social ritual, the host is expected to make the first toast while the guest reciprocates the toast. At each of our tables, the delegation witnessed how toasting is done intermittently during the meal with the well wishes said, and partook in the toasting for the experience. It is believed that as a host, the guests should 'eat and drink the best' (吃好喝好). Should guests finish the food or wine, the host is at fault for insufficient preparation, especially when Shandong is known to be exceptionally hospitable towards their guests (好客山东).

The delegation also learnt that if round tables are used, the sitting arrangement has its significance too. The seat facing the entrance would be the seat of honour, the seat opposite and on the left would be the ‘accompaniment’, while the right being the most honoured guest. The seat placements imposes the amount of wine one drinks during toasts.



8. Conclusion

报告总结

The theme for this year’s Winter Learning Journey is “Innovation in the 21st century”, where the delegation not only visited China’s capital Beijing, the delegation also explored China’s provincial powerhouse in the North, Shandong. The Winter Learning Journey acts a strategic starting point for the Business China Youth Chapter (BCYC) to understanding second-tier cities and China as a non-homogeneous country.

As the capital of Shandong, Jinan has evolved into a major national administrative, economic, and transportation hub. Today, aside from being one of the first three China software cities, Jinan also focuses on logistics, water management, health care and heavy machinery. As announced in the 13th ‘Five Year Plan’ in 2015, Jinan is envisaged to be an economic centre with a strong ‘Made in Jinan’ branding by developing its cloud computing core competencies and constructing an ecosystem for cloud computing. While Jinan is home to many traditional industries such as heavy machinery, it has also bolstered the development of many new industries, such as tourism, logistics and transportation, water and waste management.

Inspur and Handu Yishe were the companies BCYC visited during the learning journey. Inspur is China’s leading company for cloud computing and big data analytics. With Inspur’s recent inroads into the realm of smart cities and data management, there could be partnerships for tech sharing for implementation in Singapore towards the Smart Nation initiative. Handu Yishe is one of the best-performing online stores in China on various e-commerce websites, with success stemming from their IOSSP model. As Singaporeans increasingly shop online, Handu could collaborate with e-commerce startups in Singapore to exchange and learn from each other’s business models as knowledge sharing.

Much like Singapore, Jinan also faces issues of sustainable urbanization and city planning. Hence, Singapore could offer expertise in water management, planning, recycling and waste management, where Singapore’s past experience in policy-making and R&D could bring Jinan’s water ecology system to new heights. As many first-tier cities become saturated, there are significant growth prospects in terms of geographic significance within the Shandong province, as well as geographic accessibility to other key cities and countries as investments redirects inland.

This report thus seeks to provide general information on Jinan as there are many potential areas of collaboration between Singapore and Jinan, and it is hoped that the contents of this report would be beneficial for those who wish to enter Jinan’s markets.

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